

**WHAT IS CLAIMED IS:**

1        1. A filter for a plasma display panel, comprising:  
2            a substrate;  
3            a conductive material pattern formed on the substrate;  
4            a negative photoresist pattern, patterned on the substrate on portions not covered by the  
5            conductive material pattern to complement the conductive material pattern, the negative  
6            photoresist pattern comprising a pigment and a dye that cuts off light in a specific wavelength  
7            range, as well as a material that prevents external light from being reflected; and  
8            a plated mesh formed on a conductive material pattern.

1        2. The filter of claim 1, the negative photoresist pattern comprising a material selected  
2            from the group consisting of a transparent acryl group and a phenol group.

1        3. The filter of claim 1, the dye comprising an organic compound selected from the group  
2            consisting of an imonium group and a phthalocyanin group, the pigment comprising an organic  
3            compound of the imonium group, the dye blocking near infrared rays.

1        4. The filter of claim 1, the dye comprising an organic compound selected from the group  
2            consisting of an imonium group and a phthalocyanin group, the pigment comprising an organic  
3            compound of the imonium group, the dye blocking light having a wavelength near 590 nm.

1           5. The filter of claim 1, the combined thickness of the conductive material pattern and the  
2           plated mesh formed thereon being in a range of 1 to 50  $\mu\text{m}$ .

1           6. The filter of claim 1, wherein said material preventing the external light from being  
2           reflected being selected from the group consisting of a metal powder and an inorganic metal oxide.

1           7. A method of manufacturing a filter for a plasma display panel, the method comprising  
2           the steps of:

3           coating an entire surface of a substrate with a layer of a conductive material;  
4           forming a predetermined positive photoresist pattern on the conductive material by  
5           applying the photoresist, exposing the photoresist and developing the exposed photoresist;  
6           etching exposed conductive material;  
7           removing said patterned positive photoresist leaving a patterned conductive material on the  
8           substrate;

9           coating said entire surface of the substrate having the patterned conductive material with  
10          a layer of negative photoresist that comprises a dye and a pigment that cuts off light in a specific  
11          wavelength range, the negative photoresist further comprising a material preventing external light  
12          from being reflected;

13           exposing the negative photoresist by illuminating said substrate from a side opposite from  
14          said surface containing said patterned conductive layer and the negative photoresist;

15           developing the exposed negative photoresist to form a pattern exposing said patterned

16 conductive material; and  
17 forming a plated mesh on the exposed conductive material pattern by electrical plating.

1 8. The method of claim 7, wherein the negative photoresist comprises a material selected  
2 from the group consisting of a transparent acryl group and a phenol group.

1 9. The method of claim 7, the dye comprises an organic compound of an imonium group,  
2 and the pigment comprises an organic compound of the imonium group, the dye filtering out near  
3 infrared rays.

1 10. The method of claim 7, wherein the dye is an organic compound of an imonium group  
2 or a phthalocyanin group, and the pigment is an organic compound of the imonium group, the dye  
3 blocking light having a wavelength of about 590 nm.

1 11. A method for making a filter for a plasma display panel, comprising the steps of:  
2 forming a patterned layer of a conductive material on one side of a transparent substrate;  
3 applying a layer of negative photoresist on said patterned side of said substrate;  
4 exposing a pattern in said negative photoresist by illuminating a side of said substrate  
5 opposite said patterned side;  
6 developing said negative photoresist exposing only portions on said one side of said  
7 substrate patterned by the conductive material; and

increasing the thickness of said conductive material on said one side of said substrate by electroplating.

12. The method of claim 11, said negative photoresist forming a pattern that complements said patterned conductive material.

13. The method of claim 11, said patterned conductive material being formed by forming a blanket layer of conductive material, applying, patterning, and developing a positive photoresist layer on the blanket conductive layer and then etching the conductive layer with patterned photoresist thereon before removing the patterned positive photoresist.

14. The method of claim 13, said blanket layer of conductive material being formed by sputtering.

15. The method of claim 11, adding additives to said negative photoresist prior to said applying step, the additives serving to filter out near infrared wavelengths.

16. The method of claim 11, said patterned layer of said conductive material serves as a mask in said exposing step.

17. A filter for a plasma display, comprising:

2 a substrate that is transparent to light;  
3 a conductive mesh pattern formed on one side of the substrate; and  
4 a non conductive material disposed on said one side of said substrate at locations absent  
5 said conductive mesh.

1 , 18. The filter of claim 17, said conductive mesh and said non-conductive material having  
2 equal depths between 1 and 50 microns.

1 19. The filter of claim 17, said non conductive material being negative photoresist  
2 containing additives.

1 20. The filter of claim 17, said mesh being electrically grounded.

1 21. The filter of claim 17, said mesh having a grid pattern.

1 22. The filter of claim 17, said additives comprising a dye.